



A biweekly e-newsletter for the Waste Isolation Pilot Plant team

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By the Numbers

Shipments scheduled to arrive at WIPP week of 06/13/04 - 06/19/04: **26**

Total shipments received at WIPP as of 06/09/04: **2,671**

Total volume disposed at WIPP as of 06/09/04: **21,022** m³

FY04 Performance Metrics

Annual exercise sharpens WIPP response

YPOTHETICAL SCENARIO: AN ACCIDENT OCCURS DURING WIPP waste handling operations, two workers are hurt, two waste drums are punctured and there is a possible release of radioactive material into the environment.

Though highly improbable, this scenario was dramatized May 24 during the annual WIPP emergency response exercise. The exercise was designed to challenge WIPP response organizations and to monitor their performance under pressure.

"The scenario is designed to imitate an actual emergency," says Jim Eastham, WTS Emergency Preparedness Coordinator. "Once it's rolling, all WIPP



WIPP emergency response vechicles stand ready for service.

emergency response organizations are activated to participate as they would during an actual situation. This includes the Central Monitoring Room, the Emergency Operations Center, the Joint Information Center, the WIPP Emergency Response and Mine Rescue teams and all affected employees."

According to Greg Sahd, CBFO Security and Emergency Response manager, the scenario may be hypothetical, but the responses are real. "The emergency preparedness program is critical to WIPP's mandate to protect human health and the environment. The exercises ensure that our responses in an emergency will mitigate any negative effects as soon as possible. It is a very serious responsibility that is echoed by every employee who participates."

Though the nation as a whole has seen an increased level of emergency response readiness, the WIPP program has always been strong. "We hold 4-6 emergency response exercises per quarter," notes Eastham. "The annual event that took place on May 24 is significant because it is a "graded" exercise. It was observed and audited by DOE to ensure our organization responded appropriately."

Often, external organizations such as the Eddy County Sheriff's Department, Carlsbad Medical Center and the local media will participate in the annual exercise. "Outside participation increases the realism for all the players," notes Sahd. "They can create unexpected situations during the event that we must incorporate as we go. This is what we would face during a real emergency, and the practice is very much appreciated."



WIPP has not yet received its "grade" for last month's exercise. "We always improve after reviewing our evaluation, even if we receive high marks," comments Sahd. "I look forward to reviewing the report and implementing improvements into an already impressive emergency response program."

ETeamWorksCharacterization News

Can you dig it?

N APRIL, THE DOE IDAHO OPERATIONS OFFICE PUBLISHED THE Engineering Evaluation/Cost Analysis (EE/CA) for the Accelerated Retrieval of a Designated Portion of Pit 4. It is significant to WIPP because much of the waste buried in this area of Pit 4 is TRU. DOE prepared the EE/CA to elicit public comment on whether to leave the waste buried or remove it.

TRU-mixed waste has been buried in Pit 4 at INEEL for a long time. Rocky Flats began sending defense TRU waste to INEEL in 1952. At the time, radioactive wastes – packed in drums, cardboard, wood and metal boxes – were disposed of in pits or trenches backfilled with several feet of earth. TRU waste burial ceased in 1970 when storage facilities were built to maintain the wastes aboveground in retrievable containers. From 1963 to 1967, more than 45,000 m³ of radioactive waste was buried in Pit 4. During the project, approximately 7,100 m³ of waste will be removed from a half-acre plot. How much of it will be acceptable at WIPP remains to be seen.

How does DOE propose retrieving the waste from Pit 4? The excavation process would take place inside a retrieval enclosure – a portable, 170' X 288' fabric-tensioned structure with 20-foot clearance. Attached to the retrieval enclosure would be two 130' X 160' structures (complete with airlocks and HEPA-filtered ventilation systems). One structure would be used for waste sampling and drum repackaging, the other for storage.





Workers remove overburden soil from the designated retrieval area of Pit 4 at INEEL's Subsurface Disposal Area.

Excavator operators, assisted by closed-circuit TV cameras, would dig out the waste and place it in plastic-lined trays. The trays would be moved to a drum load-out area where prohibited items would be removed and the waste sampled, as necessary. The plastic liner and tray would then be loaded into a new drum for storage and final shipment.

Building on the success of this year's Glovebox Excavation Method Project at INEEL's Pit 9, INEEL spokesman Bruce Byram says, "Many lessons were learned that will help make the Pit 4 project a success. We were able to verify the accuracy of our disposal records and improve retrieval technology. We also found that the plastic liners and bags in the containers were still intact even though the drums were degraded."

Estimated cost for the three-year project is \$208.5M – which includes \$85.7M to meet WIPP waste acceptance criteria.

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Fill 'er up!

Noticed the spike in gas prices? So have WIPP truck drivers who say it takes close to \$600 to top off their tanks.



It's a RAP

N THE 1950s, DOE CREATED THE RADIOLOGICAL ASSISTANCE Program (RAP) to avail DOE resources and expertise to organizations that respond to radiological incidents. Today's RAP teams are equipped with personal protective equipment, radiological monitoring instruments, airsampling equipment, communications equipment and other emergency response capabilities.

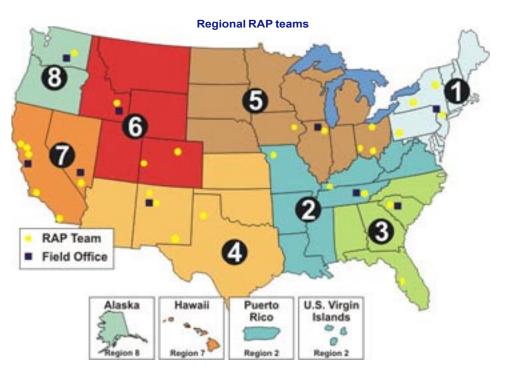
RAP teams will assist agencies on request, but can only be activated at the direction of the regional coordinator or DOE Headquarters. On scene, RAP teams report to the incident commander and support the lead state or federal agency with radiological surveys and technical expertise.

The United States – including Puerto Rico and the U.S. Virgin Islands – is divided into eight regions. Region 4, home to WIPP, Los Alamos National Laboratory, Sandia National Laboratories and Pantex, supports four RAP teams.

RAP teams are comprised of specially trained DOE and contractor personnel. Each team has a team leader, team captain, four health physicists, survey/support personnel and a public information officer. To maintain RAP qualifications, team members attend refresher training at three-year intervals.

ast month, WIPP's RAP team joined other regional teams, the FBI, a civil support team and state personnel to train at the Energy Training Complex at Albuquerque's Kirtland Air Force Base. Three days were spent in the classroom, followed by a two-day, full-scale exercise.

The exercise scenario involved the release of radioactive materials, requiring response teams to deploy to a number of locations around the city of Albuquerque, establish a Joint Operations Center and make appropriate official and public notifications. A follow-on debriefing helped teams identify response strengths and weaknesses.





WIPP Permanent Marker-Part II, the Markers Panel

HE MARKERS PANEL WAS GIVEN A MONUMENTAL TASK, LITERALLY. In 1991, scholar members were asked to develop preliminary designs for a WIPP permanent marker system. As a start point, the panel – comprised of experts in materials science, astronomy, anthropology, archaeology and linguistics – used recommendations of the precedent Futures Panel (see Part 1 on page 4 of the May 27 TRU TeamWorks issue).

How do you go about constructing a 10,000-year marker warning future generations to stay out of a half-mile deep radioactive waste repository? The panel studied ancient monoliths at Stonehenge and Giza to evaluate their shortcomings: shape, durability, visibility from the air, stability against ground motion, messaging and material value (to deter vandalism).

They discussed thermo-electric powered warning systems (using temperature differential between the surface and 100 feet below), as well as audible (eolian) markers designed to generate a mournful sound as wind vibrates through "tuned" structures. And astronomical markers (procession of the stars) could be used to indicate the time WIPP was filled, to a future point when the waste's radioactive elements would no longer endanger human health.

The panel reasoned that any graphics used to communicate to future generations must be "evocative" to impart a sense of apprehension to those who may not be able to read verbal messages. Verbal messages, they decided, would be written in the six major languages of the United Nations: English, French, Spanish, Russian, Chinese and Arabic, plus the Navajo language.

Here are some of the panel's proposed marker designs.

Today, a project team is revisiting the Markers Panel work. Judy Zwickl, WRES project leader, says the team is "putting reality into it. We're currently drafting implementation plans for passive institutional controls and evaluating modern materials that are cost-effective, yet durable enough to permanently mark WIPP."

It is interesting to note that decommissioning plans call for the removal of all WIPP surface buildings – with the exception of the hot cell. It will stand as a testament to the activities that took place at WIPP.

For more details on the types of material and design testing to be done, see the Permanent Markers Testing Program Plan [DOE/WIPP 00-3175].

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ETeamWorks Safety News

Get a grip! A common sense safety solution

ITH A LITTLE COMMON SENSE, SOLUTIONS TO SAFETY ISSUES can sometimes be fast, easy and inexpensive. One such example surfaced around the Waste Handling Bay TRUdocks where transuranic waste is unloaded from TRUPACT-II shipping containers.

Waste handlers voiced concern to the Safety Awareness Committee that handrails around the docks were slippery when employees wearing nitrile gloves were going up or down the docks' stairways. Proper use of handrails and gloves are important safety behaviors, but their use at the same time seemed to be causing a new safety issue.

A solution needed to address the issue without creating other problems. Changing the type of gloves worn by waste handlers was considered, but that could have caused problems operating machinery. Another option considered was repainting all of the railings with a textured paint to give them a non-slip surface. This option was ruled out, however, due to the difficulty in properly cleaning it in the event that there was ever contamination on the surface.

The common sense solution? Gary Chism, a member of the Safety Awareness Committee, applied anti-slip tape to the rails. The extra traction allows waste handlers to get a good grip on the handrails. And, in the event that contamination ever needed to be cleaned up, the tape could be removed and easily and inexpensively replaced.

"It was the guys doing the work who raised the issue," says Safety Awareness Committee chair Melody Smith. "In our work, safety is the most important thing. Even resolving small issues can make a big difference."

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Photos courtesy of Melody Smith, WTS

<u>₹TeamWorks</u> Working Smart

Underground improvement

HERE'S MORE GOING ON A HALF-MILE UNDERGROUND THAN YOU might think. At least that's true at WIPP. While accelerated waste disposal and Panel 3 mining are well-known topics around the water cooler, that's not all WIPP employees have been working on.

"Underground crews have completed three renovation projects within the last couple of months," says Underground Mine Engineer Dave Sjomeling. "The underground oil bay, the miners' lunchroom and the air intake shaft drift projects help make the underground more functional."



The lube truck sits in the newly renovated underground oil bay.

The underground oil bay was widened to make it easier for the lube truck to re-fill and then go out to service vehicles in the mine. This work included the addition of a declined slope into the bay to provide containment in the event of an inadvertent lubricant spill. Widening of the bay has also made it easier to keep the area organized and clean.

Renovation to the miners' lunchroom has made a big difference for WIPP's underground workers. The lunchroom was enlarged, two bulkheads were added, maintenance scaling was performed on the ribs (walls) and floor,

additional ground support was added, a larger air conditioning unit was installed and lighting was increased.

and finally, about three feet of floor was removed throughout the length of the air intake shaft drift. This is the second time the floor was lowered since it was originally cut in the mid-80s. The major project was needed in part because of salt creep, but it also helps to improve ventilation throughout the underground.

The project list goes on. Crews continue to install an extensive ground control system in E-140 drift from S-1000 to S-3310, and major work continues in the north end of the mine. Plans are also underway to support the Proof of Concept Test Plan for Remote-Handled Dual Canister Emplacement, work on the fabrication shop and commissioning of Panel 3.



The underground lunchroom features better air conditioning and more lighting. Photos courtesy of Melody Smith, WTS

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Portage announces contract award

Portage Environmental recently won a competitive GSA contract to provide environmental engineering support to Argonne National Laboratory-West.

Under the contract, Portage is performing routine environmental monitoring, environmental reporting, site characterization activities and general environmental engineering support. Activities performed to date include surface and groundwater sampling, as well as characterization of a Comprehensive, Environmental Response, Compensation and Liability Act (CERCLA) remediation site.

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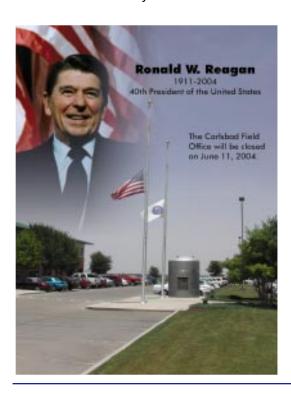
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NMSU-C hosts information meeting

New Mexico State University at Carlsbad (NMSU-C) is hosting a community meeting on Thursday, June 10, at 6:30 p.m. to discuss program and degree offerings. Staff will discuss the following education programs:

- Facilities Maintenance Technology
- Electronic Technology
- · Heating, Air Conditioning and Refrigeration
- Manufacturing Technology
- Welding Technology
- Apprenticeships
- Engineering Technology

Bring transcripts, training certificates and questions to Room 309 at NMSU-C to talk one-on-one with department heads. They will determine the courses you need to complete your degree, schedules and how NMSU-C can help you. For more information call Gary Smith at 234-9458 or Bob Wallace at 234-9452.





Fox named L&M Technologies Program Manager

Michael Fox has been named Program Manager for L&M Technologies, Inc., at WIPP. Fox's many years of experience at WIPP, plus his technical expertise, make him uniquely qualified to move the program forward. Fox replaces Scott Phillips, who recently retired from the company.

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Birthdays

Jesus Nevarez (WTS) - June 1 Roy Burkham (WTS) - June 7 Tammy Bowden (CTAC) - June 9 Jan Terpening (WTS) - June 10 Marty Gonzales (WTS) - June 14 Gerry Woolsey (WTS) - June 15 Dick Lipinski (WTS) - June18 Steve Offner (WTS) - June 18 Yoli Sandate (WTS) - June 18 Steve Childress (WTS) - June 19 Susan McCauslin (CTAC) - June 20 Estela Osbourne (WTS) - June 20 Sanford Watson (WTS) - June 22



Allen earns degree

Congratulations to **Vivian Allen (L&M)**, who recently graduated summa cum laude from the Indiana Institute of Technology with a bachelor of science degree in business administration - human resources development. Vivian began her degree in 1963, but was unable to finish at that time. She returned to college in 1995 at the urging of coworker Sherry Fabian (WTS) and with the support of her family and WIPP friends. Taking one class at a time, Vivian completed her long-time goal in February.